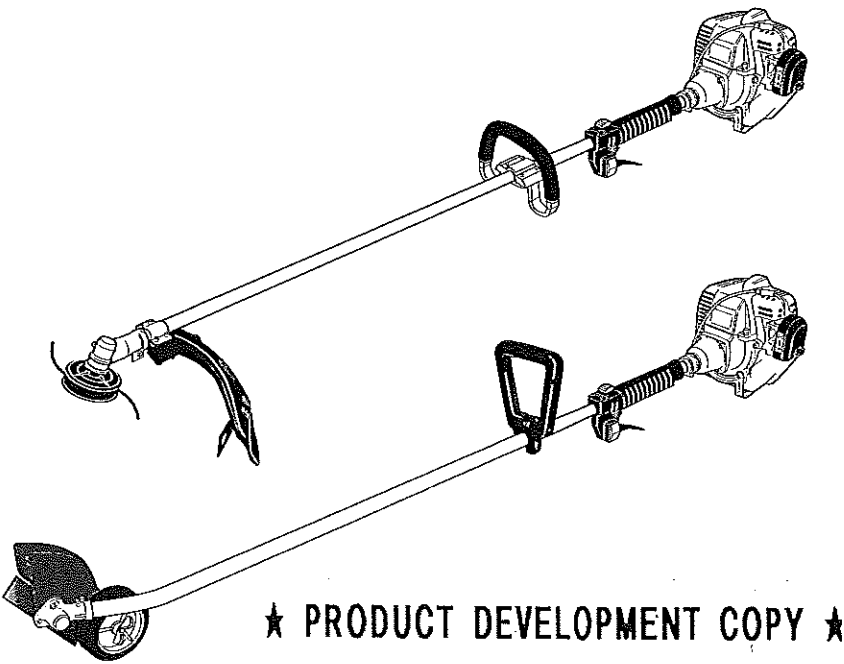
SHINDAIWA OWNER'S/ OPERATOR'S MANUAL

T261 GRASS TRIMMER
LE261 LAWN EDGER



★ PRODUCT DEVELOPMENT COPY ★

WARNING!

Minimize the risk of injury to yourself and others! Read this manual and familiarize yourself with the contents.Always wear eye and hearing protection when operating this unit.

shindaiwa®

Introduction

The Shindaiwa 261-series of hand-held power tools has been designed and built to deliver superior performance and reliability without compromise to quality, comfort, safety or durability.

Shindaiwa's high-performance engines represent the leading edge of 2-cycle engine technology, delivering exceptionally high power with remarkably low displacement and weight. As an owner/operator, you'll soon discover for yourself why Shindaiwa is simply in a class by itself!

IMPORTANT!

The information contained in these instructions describe product available at the time of publication.

Shindaiwa Inc. reserves the right to make changes to products without prior notice, and without obligation to make alterations to units previously manufactured.

WARNING!

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Contents

PAGE

Attention Statements 3

General Safety Instructions 4

Safety Labels 6

Product Description 8

Specifications 9

Assembly 10

Engine Fuel 18

Starting the Engine 19

Stopping the Engine 21

Adjusting Engine Idle 21

Checking Unit Condition 22

Shoulder Strap 22

Cutting Grass 23

Edging 24

Maintenance 26

Long Term Storage 32

Troubleshooting Guide 33

Emission System Warranty 37

Attention Statements

Throughout this manual are special "attention statements".

WARNING!

A statement preceded by the triangular attention symbol and the word "WARNING" contains information that should be acted upon to prevent serious bodily injury.

CAUTION!

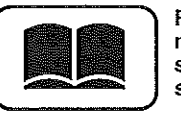
A statement preceded by the word "CAUTION" contains information that should be acted upon to prevent mechanical damage.

IMPORTANT!

A statement preceded by the word "IMPORTANT" is one that possesses special significance.

NOTE:

A statement preceded by the word "NOTE" contains information that is handy to know and may make your job easier.



Read and follow this manual.Failure to do so could result in serious injury.

Wear eye and hearing protection at all times during the operation of this unit.

Keep bystanders at least 50 feet (15 m) away during operation.

Beware of thrown or ricocheted objects.

Do not operate this unit with a blade.

IMPORTANT!

The operational procedures described in this manual are intended to help you get the most from your 261 Trimmer or Edger as well as to protect you and others from harm. These procedures are guidelines for safe operation under most conditions, and are not intended to replace any safety rules and/or laws that may be in force in your area. If you have questions regarding your 261 Trimmer or Edger unit, or if you do not understand something in this manual, your Shindaiwa dealer will be glad to assist you. You may also contact Shindaiwa, Inc. at the address printed on the back of this Manual.

General Safety Instructions

Work Safely

Trimmers and edgers operate at very high speeds and can do serious damage or injury if they are misused or abused. *Never allow a person without training or instruction to operate your 261 Trimmer or Edger!*

WARNING!

Never make unauthorized attachment installations. Nor use attachments not approved by Shindaiwa for use on this unit.

Stay Alert

You must be physically and mentally fit to operate this unit safely.

WARNING!

Never operate power equipment of any kind if you are tired or if you are under the influence of alcohol, drugs, medication or any other substance that could affect your ability or judgement.

1373

WARNING!
Minimize the Risk of Fire

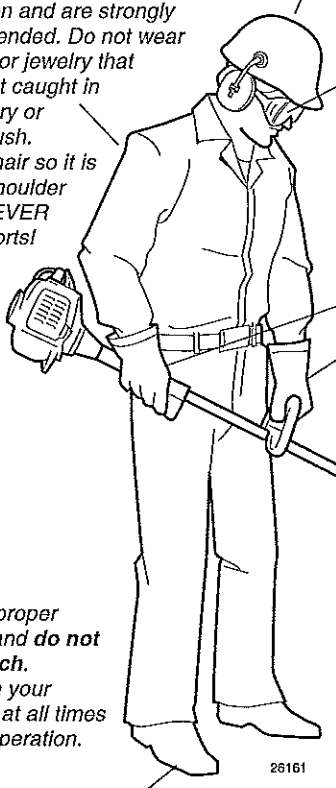
NEVER smoke or light fires near the trimmer or edger.
ALWAYS stop the engine and allow it to cool before refueling. Avoid overfilling and wipe off any fuel that may have spilled.
ALWAYS move the unit to a place well away from a fuel storage area or other readily flammable materials before starting the engine.
NEVER place flammable material close to the engine muffler.
NEVER run the engine without the spark arrester screen in place.

1374

WARNING!
Use Good Judgment

ALWAYS wear eye protection to shield against thrown objects.
NEVER run the engine when transporting the unit.
NEVER run the engine indoors! Make sure there is always good ventilation. Fumes from engine exhaust can cause serious injury or death.
ALWAYS clear your work area of trash or hidden debris that could be thrown back at you or toward a bystander.
ALWAYS use the proper cutting tool for the job.
ALWAYS stop the machine immediately if it suddenly begins to vibrate or shake. Inspect for broken, missing or improperly installed parts or attachments.
NEVER extend trimming line beyond the length specified for your unit.
ALWAYS keep the unit as clean as practical. Keep it free of loose vegetation, mud, etc.
ALWAYS hold the unit firmly with both hands when cutting or trimming, and maintain control at all times.
ALWAYS keep the handles clean.
ALWAYS disconnect the spark plug wire before performing any maintenance work.

The Properly Equipped Operator



Wear hearing protection devices and a broad-brimmed hat or helmet.

Wear close-fitting clothing to protect legs and arms. Gloves offer added protection and are strongly recommended. Do not wear clothing or jewelry that could get caught in machinery or underbrush. Secure hair so it is above shoulder level. NEVER wear shorts!

***Always** wear eye protection such as goggles or safety glasses.*

***Always** operate with both hands firmly gripping the unit.*

Keep away from the rotating cutting attachment at all times, and never lift a moving attachment above waist-high.

*Keep a proper footing and **do not overreach.** Maintain your balance at all times during operation.*

***Always** make sure the appropriate cutting attachment shield is correctly installed and in good condition.*

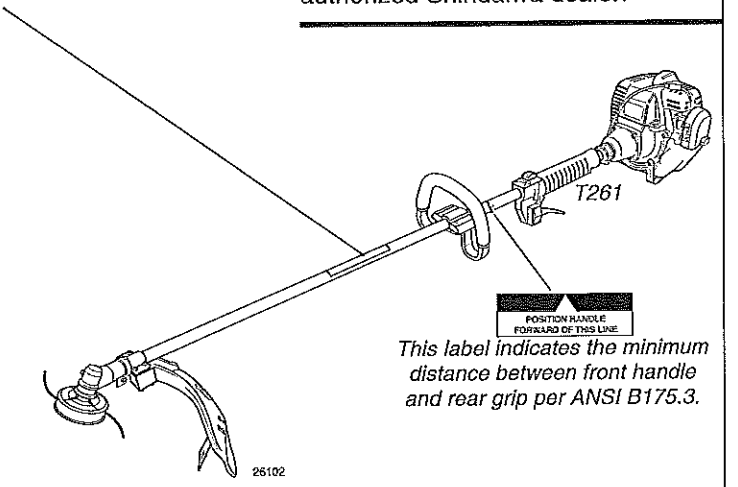
*Wear appropriate footwear (non-skid boots or shoes): do not wear open-toed shoes or sandals. **Never operate the unit while barefoot!***

Figure 1

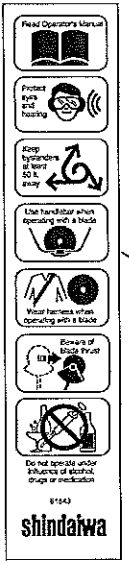
Safety Labels

IMPORTANT

Safety and Operation Information Labels: Make sure all information labels are undamaged and readable. Immediately replace damaged or missing information labels. New labels are available from your local authorized Shindaiwa dealer.



This label indicates the minimum distance between front handle and rear grip per ANSI B175.3.



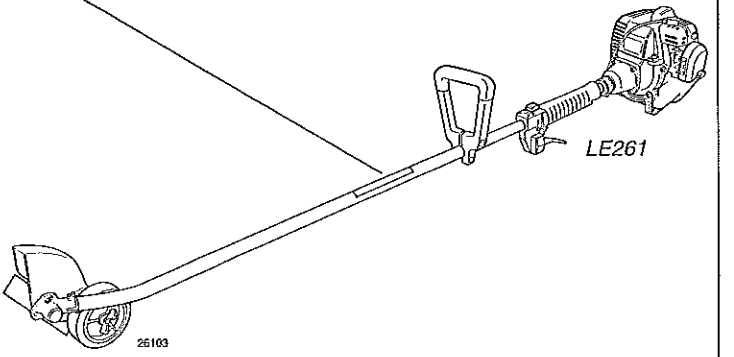
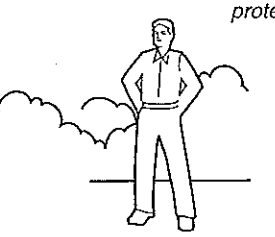


Figure 2

Be Aware of the Working Environment (all units)

Avoid long-term operation in very hot or very cold weather.

Make sure bystanders or observers outside the 50-foot "danger zone" wear eye protection.



50 FEET

50'

Reduce the risk of bystanders being struck by flying debris. Make sure no one is within 50 feet (15 meters)—that's about 16 paces—of an operating attachment.

Be extremely careful of slippery terrain, especially during rainy weather.

***Always** make sure the appropriate cutting attachment shield is correctly installed.*

Beware of a coasting blade when edging. A coasting blade can injure while it continues to spin after the throttle trigger is released or after the engine is stopped.

26104

If contact is made with a hard object, stop the engine and inspect the cutting attachment for damage.

When operating in rocky terrain or near electric wires or fences, use extreme caution to avoid contacting such items with the cutting attachment.

Be constantly alert for objects and debris that could be thrown either from the rotating cutting attachment or bounced from a hard surface.

Figure 3

Product Description

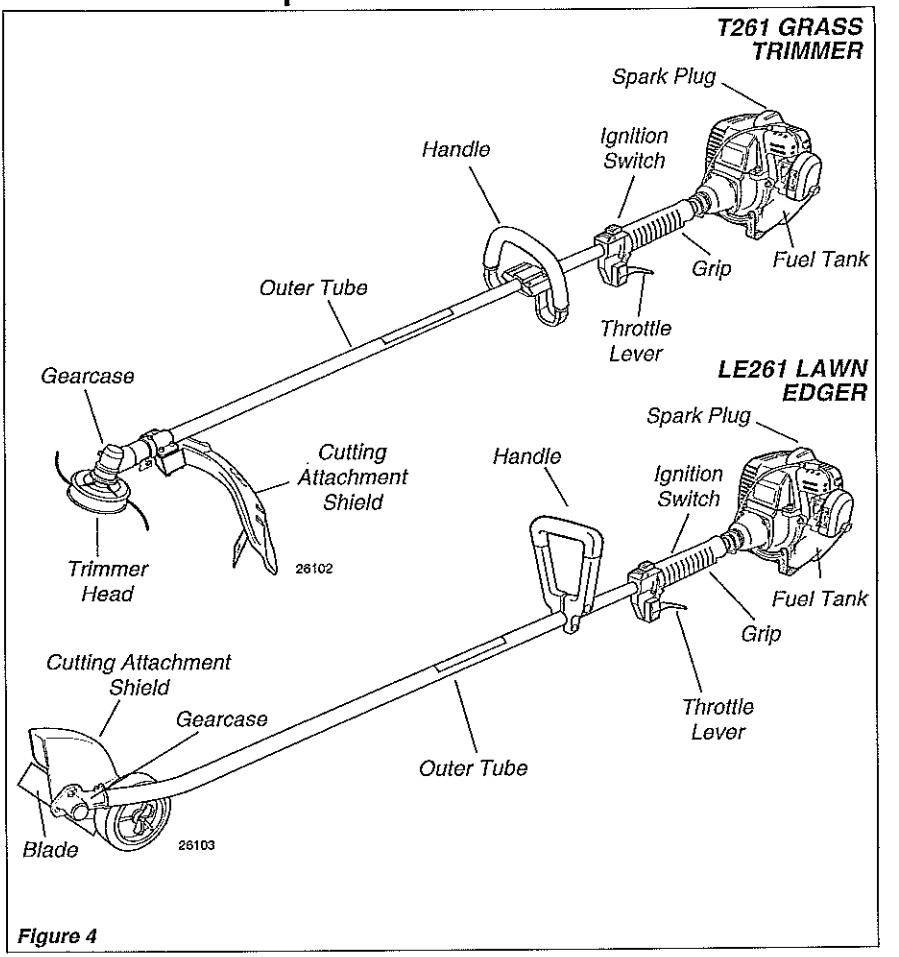


Figure 4

Using the accompanying illustrations as a guide, familiarize yourself with your unit and its various components. Understanding your unit helps ensure top performance, long service life, and safer operation. See Figure 4.

WARNING!

Do not make unauthorized modifications or alterations to any of these products or their components.

1192

Specifications

T261 dry weight (less cutting attachment) ..... 13.9 lb./6.3 kg

LE261 dry weight (less blade & holder) ..... 14.3 lbs./6.4 kg

Engine model ..... Shindaiwa S260C

Engine type ..... 2-cycle, vertical-cylinder, air-cooled

Bore x stroke ..... 1.3 in. x 1.2 in./32 x 30 mm

Displacement ..... 24.1 cc/1.5 cu. in.

Maximum power ..... 1.2 HP/0.9 kW @ 7500 rpm (min^{-1})

Fuel/oil ratio ..... 50:1 with ISO-L- EGD or JASO FC class 2-cycle Mixing Oil Shindaiwa One High Performance Oil meets or exceeds these specifications and is recomended for all Shindaiwa Products.

Fuel tank capacity ..... 24.3 oz./720 ml

Carburetor type ..... TK slide-valve, diaphragm-type

Ignition ..... One-piece electronic, transistor-controlled

Muffler ..... 2-Stage, Catalyst

Spark plug ..... Champion CJ8Y

Air cleaner type ..... Dry element (quick-remove/install)

Starting method ..... Recoil

Stopping method ..... Slide switch

Transmission type ..... Automatic, centrifugal clutch w/bevel gear

EPA Emission Compliance Period* ..... Category A

*The EPA emission compliance period referred to on the emission compliance label located on the engine, indicates the number of operating hours for which the engine has been shown to meet Federal emission requirements. Category C = 50 hours (Moderate), B = 125 hours (Intermediate) and A = 300 hours (Extended)

Specifications are subject to change without notice.

Prior to Assembly

Before assembling, make sure you have all the components required for a complete unit:

- Engine assembly
- Outer tube assembly
- Cutting attachment shield
- Trimmer Head, or Edger Blade
- Handle
- Kit containing cutting attachment shield mounting bracket and hardware, handle mounting bracket and hardware, this manual and tool kit for routine maintenance. Tool kits vary by model and may include a hex wrench, spark plug/screwdriver combination wrench, and spanner wrench.

Carefully inspect all components for damage.

IMPORTANT!

The terms "left", "left-hand", and "LH"; "right", "right-hand", and "RH"; "front" and "rear" refer to directions as viewed by the operator during normal operation.

Assembly
Driveshaft and Powerhead T261/LE261

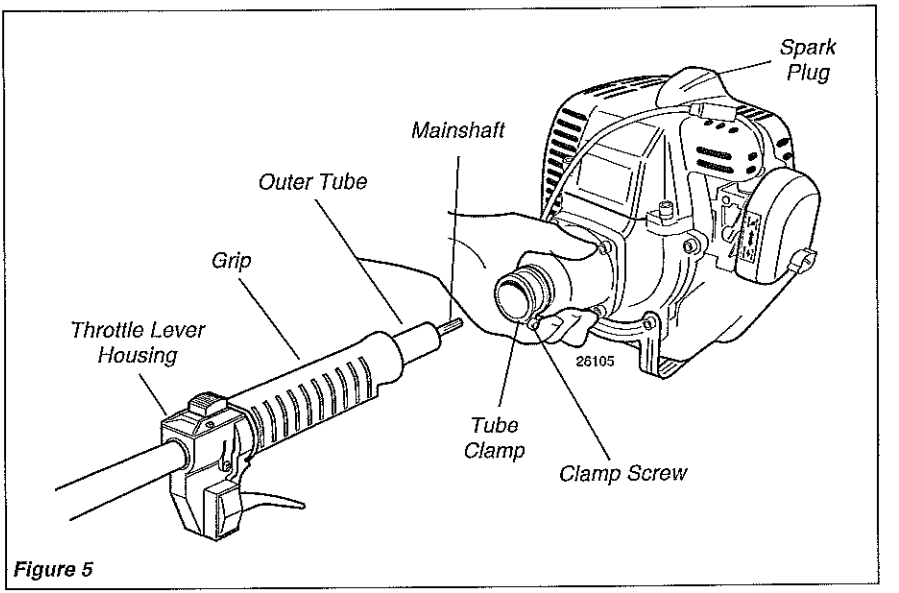


Figure 5

Connect the Outer Tube to the Powerhead.

1. Place the powerhead on a clean, flat surface, spark plug facing up. See Figure 5.

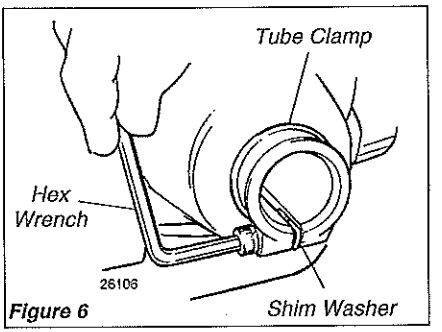


Figure 6

2. Use the 4mm hex wrench to loosen the tube clamp screw. Verify that the D-shaped shim washer is positioned correctly. See Figure 6.

CAUTION!

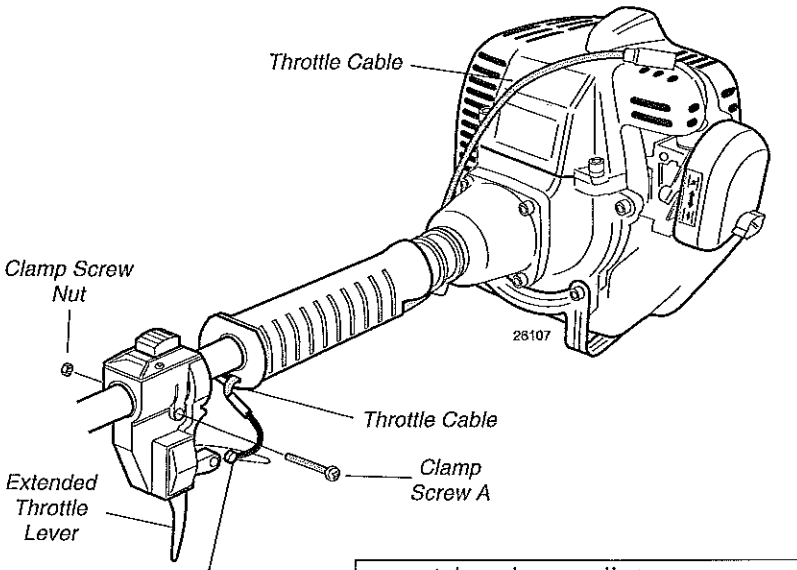
Do not remove the D-shaped shim washer! The shim washer prevents damage from overtightening the tube clamp screw.

3. Slide the outer tube into the tube clamp until the tube bottoms. If installation is difficult, rotate the outer tube or mainshaft slightly until you feel the mainshaft splines engage with the powerhead.
4. Position the outer tube with the stop switch up and the throttle lever down.
5. Slide the outer tube into the powerhead until the throttle grip just contacts the tube clamp.
6. Tighten the clamp screw firmly.

CAUTION!

Do not force the shaft tube into the powerhead! Excessive force can damage the shaft tube and mainshaft.

Assembly
Throttle Linkage and Ignition Leads T261/LE261



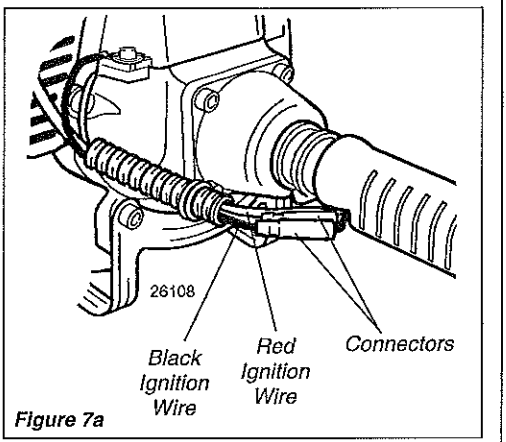


Figure 7a

Figure 7

Refer to Figures 7 and 7a.

1. Remove the throttle lever clamp screw A.
2. Extend the throttle lever to expose the cable socket. See figure 7.
3. Starting from the powerhead, push the throttle cable through the handgrip until it appears at the throttle assembly.
4. Insert the throttle cable end into the socket on the throttle lever.
5. Retract the throttle lever to its original position.
6. Replace and tighten the throttle lever clamp screw A.
7. Using finger pressure only, connect the red and black ignition wires onto the connectors on the powerhead. See Figure 7a.
8. Check throttle free play and adjust if required. See next page.

Assembly
Throttle Cable Free Play Adjustment T261/LE261

1. Move the throttle lever to check for smooth operation. Any stiffness or binding must be corrected before using the product.
2. Actuate the throttle lever to check for free play of approximately 4-6 mm (1/4") in the idle position. Make adjustment at the carburetor as follows:

- Temporarily move the adjuster cover to expose the cable adjuster. See Figure 8.
- Loosen the cable locknut and then screw the cable adjuster in or out until proper free play is achieved. See Figure 9.

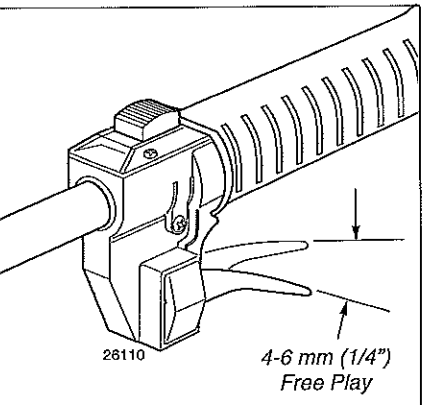


Figure 9

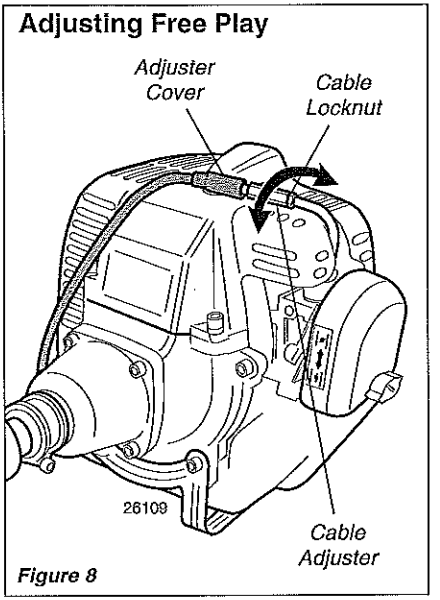


Figure 8

Assembly

Handle T261

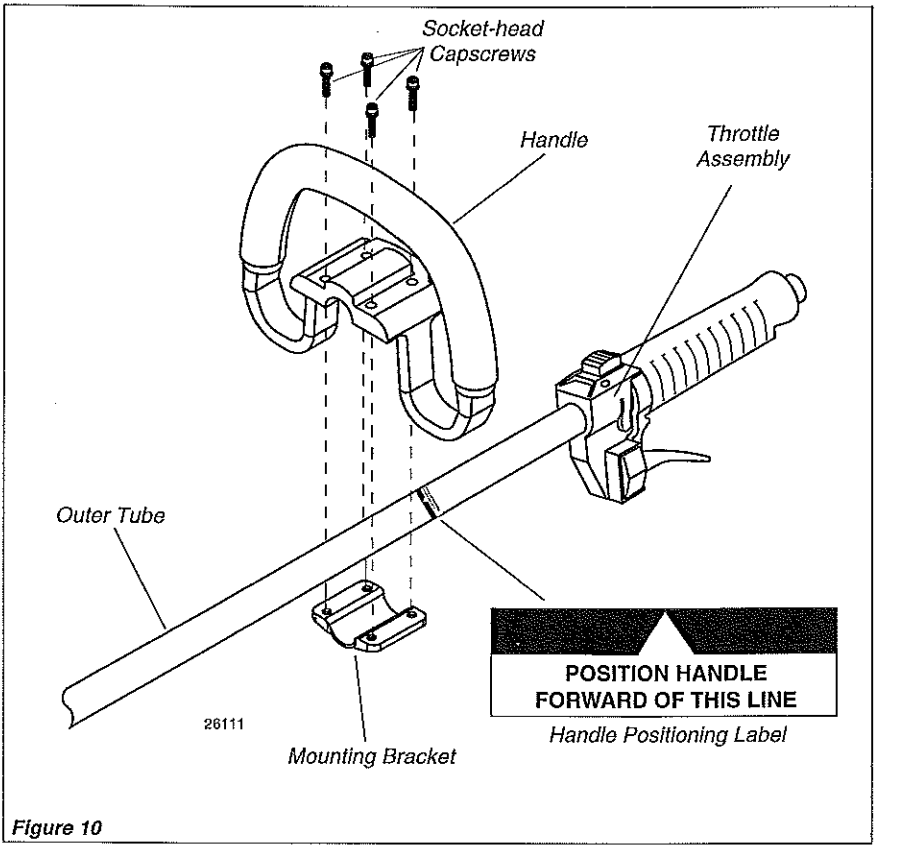


Figure 10

Connect the Handle to the Outer Tube.

1. Position the handle on the outer tube forward of Handle Positioning Label. See Figure 10.
2. Install the mounting bracket with the 4 socket head cap screws. Tighten the screws finger-tight ONLY at this time.
3. Locate the handle in the best position for operator comfort (usually about 10 inches ahead of the throttle housing).
4. Secure the handle by alternately tightening the four socket-head screws in a diagonal or "criss-cross" fashion.

Assembly
Cutting Attachment Shield T261

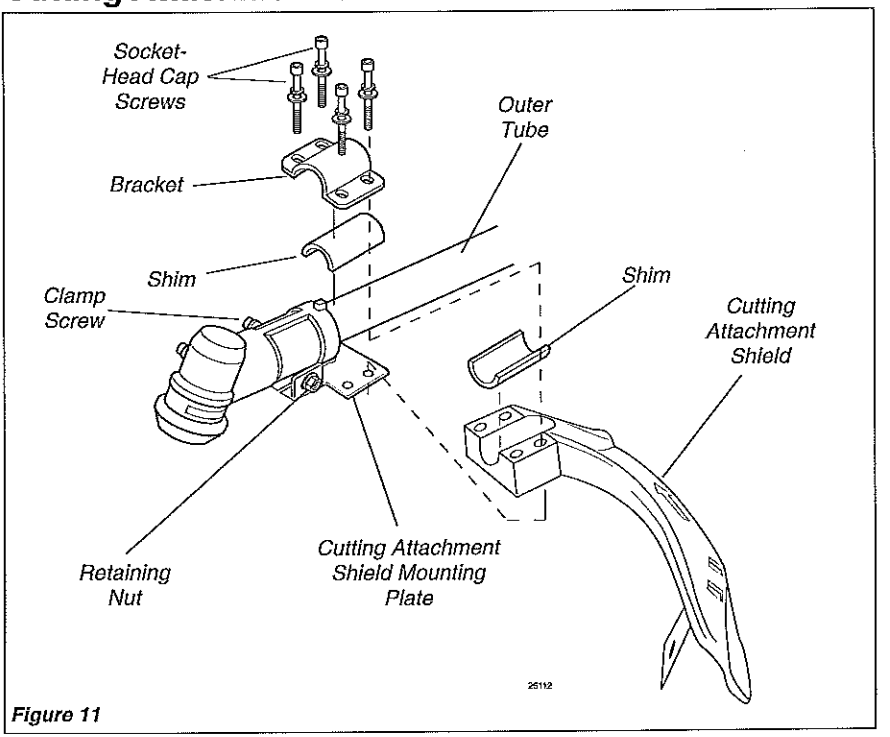


Figure 11

Install the Cutting Attachment Shield.

1. Insert the cutting attachment shield between the outer tube and the cutting attachment mounting plate. See Figure 11.

NOTE:

It may be necessary to loosen the retaining nut and clamp screw to adjust cutting attachment shield mounting plate.

2. Fit the two shims and the bracket over the outer tube and loosely install the four socket-head screws. See Figure 11.

CAUTION!

Make sure the clamp screw and retaining nut is securely tightened before tightening the four socket head cap screws.

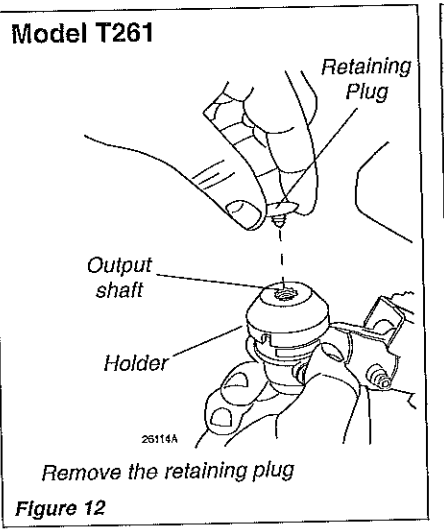
1324

3. Tighten the four socket-head cap screws to secure the cutting attachment shield.

WARNING!

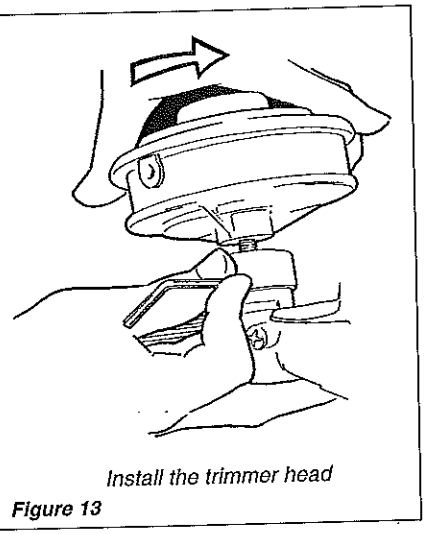
NEVER operate the T261 without the cutting attachment shield installed and tightly secured!

Assembly
Trimmer Head T261



Remove the retaining plug

Figure 12



Install the trimmer head

Figure 13

Install the Trimmer Head.

1. Turn the trimmer over so that the gearcase output shaft faces UP.
2. Remove and discard the plastic retaining plug. See Figure 12.
3. Rotate the tool holder and shaft until the notch in the holder aligns with the notch on the gearcase flange, and use the long end of the hex wrench to lock the gearshaft in position. See Figure 13.
4. While holding the hex wrench, thread the trimmer head onto the gearshaft, turning counter-clockwise. Using hand pressure only, tighten the trimmer head firmly on the gearshaft. See Figure 13.

IMPORTANT!

The trimmer head has a left-hand thread. For removal, turn the trimmer head clockwise.

5. Remove the hex wrench.
6. Adjust the trimmer line length to reach no further than the line cutter on the cutting attachment shield. Trim to the correct length if necessary.

WARNING!

A standard grass trimmer with a loop handle should NEVER be operated with blade-type attachments. For blade use, the trimmer must be fitted with a bicycle-type handlebar or barrier bar that is located in front of the operator to reduce the risk of the operator coming in contact with the cutting attachment (per ANSI B175.3). When using a blade, the unit must be equipped with a harness or strap.

The T261 Grass Trimmer should now be completely assembled and ready for use.

Assembly
Handle LE261

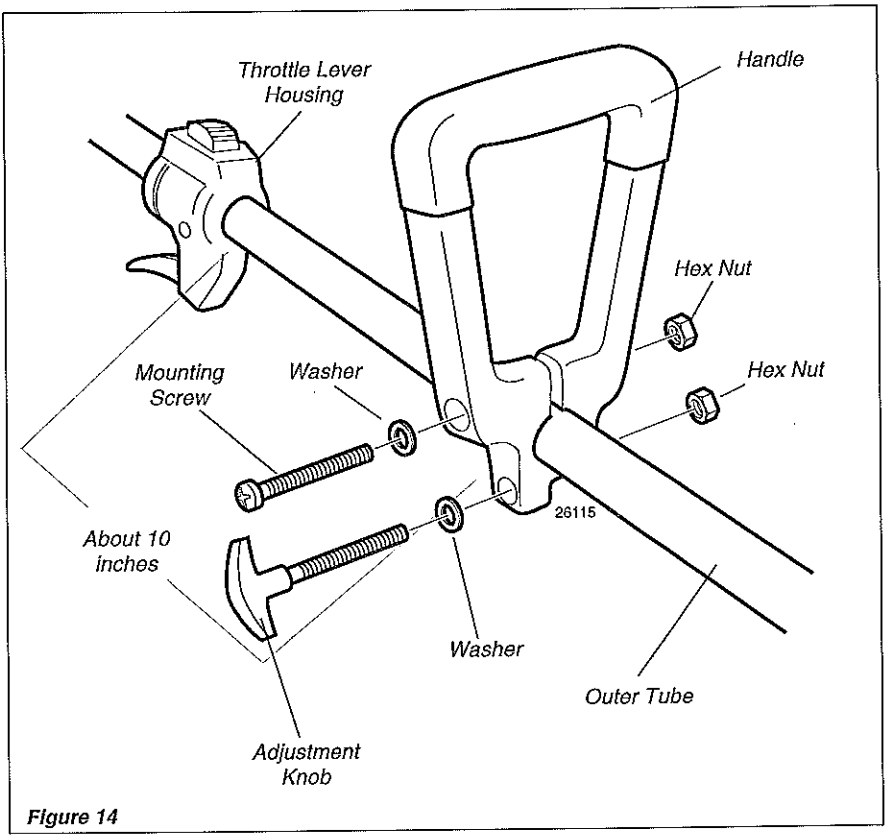


Figure 14

Connect the Handle to the Outer Tube

1. Remove both screws from the handle.
2. While spreading the handle at the mounting hole, position the handle on the outer tube. See Figure 14.
3. Reinstall the two mounting screws in the handle, but do not tighten them at this time.

NOTE:
The handle is recessed to receive the hex nuts.

4. Locate the handle at the best position for operator comfort (usually about 10 inches ahead of the throttle lever). See Figure 14.
5. Secure the handle by tightening the knob at the handle base.

Assembly

Attachment Shield and Edger Blade LE261

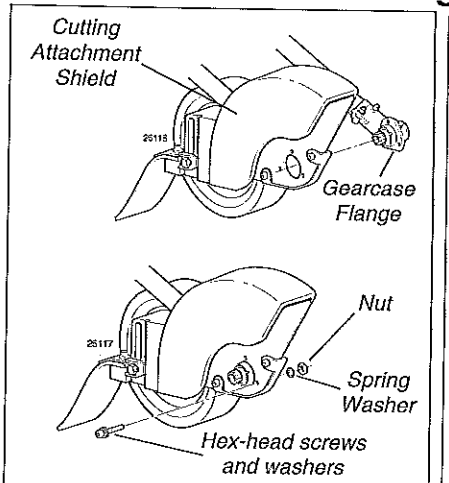


Figure 15

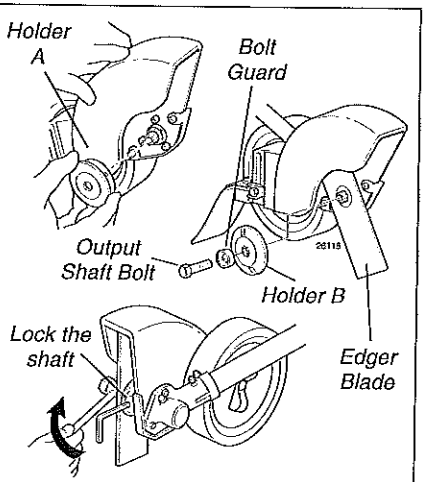


Figure 16

Mount the Cutting Attachment Shield on the Gearcase

1. Remove the output shaft bolt, bolt guard, holder A and holder B from the gearcase.
2. Align the cutting attachment shield assembly with the gearcase as shown, and then fit the shield onto the matching flange on the gearcase. See Figure 15.

WARNING!

The LE261 is intended for right-handed operation only! When correctly assembled, the cutting attachment shield and shaft **must** be oriented as shown.

3. Install the hex-head screws with washers, then use the hex wrench to firmly tighten all three screws. See Figure 15.
4. Install a washer and nut on each of the three screws assembled in Step 3, then firmly tighten each nut. See Figure 15.

IMPORTANT

The three hex-head screws must be firmly tightened before installing and tightening the nuts.

Mount the Edger Blade

1. Install holder A onto the output shaft. See Figure 16.
2. Mount the edger blade and holder B onto the shaft, and then install the bolt guard and shaft bolt (turn bolt counterclockwise to install). See Figure 16.
3. Align the hole in holder A with the matching hole in the gearcase, and then use the hex wrench to temporarily lock the output shaft. See Figure 16.
4. Use the combination wrench to firmly tighten the shaft bolt. Remove the hex wrench. See Figure 16.

WARNING!

- The LE261 is designed for use with a single blade only!
- Never operate the LE261 without the cutting attachment shield installed and tightly secured!

The LE261 Edger should now be completely assembled.

Mixing Fuel

CAUTION!

Some gasolines contain alcohol as an oxygenatel Oxygenated fuels may cause increased operating temperatures. Under certain conditions, alcohol-based fuels may also reduce the lubricating qualities of some mixing oils. Never use any fuel containing more than 10% alcohol by volume! Generic oils and some outboard motor oils may not be intended for use in high-performance air cooled 2-cycle engines, and should never be used in your Shindaiwa engine!

CAUTION!

This engine is designed to operate on a 50:1 mixture consisting of unleaded gasoline and ISO-L-EGD or JASO FC class 2-cycle mixing oil only. Use of Non-approved mixing oils in catalyst equipped units can lead to excessive carbon deposits.

- Use only fresh, clean unleaded gasoline with a pump octane rating of 87 or higher.
- Mix all fuel with a 2-cycle air cooled mixing oil that meets or exceeds ISO-L-EGD and/or JASO FC classified oils at a 50:1 gasoline/oil ratio.

Example of 50:1 mixing quantites:

- 1 gallon of gasoline to 2.6 oz. mixing oil.
- 5 litres of gasoline to 100 ml. mixing oil.

Filling the Fuel Tank

WARNING!

Minimize the risk of fire!

- Stop the engine before refueling.
- Always allow the trimmer to cool before refueling!
- Wipe all spilled fuel and move the trimmer at least 10 feet (3 meters) from the fueling point before restarting!
- Never smoke or light any fires near the trimmer or fuels!
- Never place any flammable material near the engine muffler!
- Never operate the engine without the muffler and spark arrester in place and properly functioning!

IMPORTANT!

Mix only enough fuel for your immediate needs! If fuel must be stored longer than 30 days and Shindaiwa One oil with fuel stabilizer is not used, it should first be treated with a fuel stabilizer such as StaBil™.

1. Place the trimmer on a flat, level surface.
2. Clear any dirt or other debris from around the fuel filler cap.
3. Remove the fuel cap, fill the fuel tank with clean, fresh fuel mixture.
4. Install and firmly tighten the fuel cap.

shindaiwa ONE **oil is a registered JASO FC classified oil and also meets or exceeds ISO-L-EGD performance requirements. Shindaiwa One is recommended for use in all Shindaiwa low emission engines. Shindaiwa One also includes a fuel stabilizer.**

Starting the Engine

IMPORTANT!

Engine ignition is controled by a two position switch mounted on the throttle housing labeled, "I" for ON or START and "O" for OFF or STOP.

1233

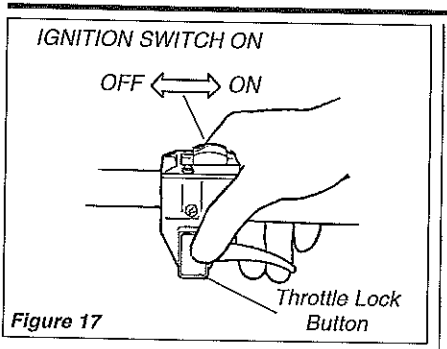


Figure 17

1. Slide the ignition switch to the "ON" position. See Figure 17.
2. Set the throttle lever to the "fast idle" position as follows:
   a. Squeeze the throttle lever toward the handgrip on the shaft tube.
   b. Depress and hold the throttle lock button.
   c. While depressing the throttle lock button, release the throttle lever. See Figure 17.

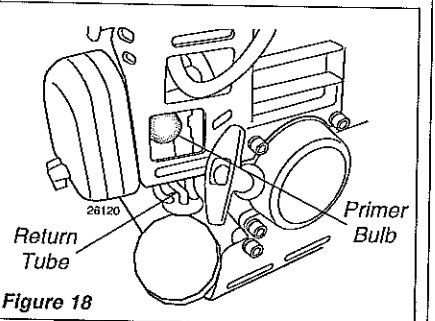


Figure 18

3. Press the primer bulb until fuel can be seen flowing in the transparent return tube.

IMPORTANT!

The primer system only pushes fuel through the carburetor. Repeatedly pressing the primer bulb will not flood the engine with fuel.

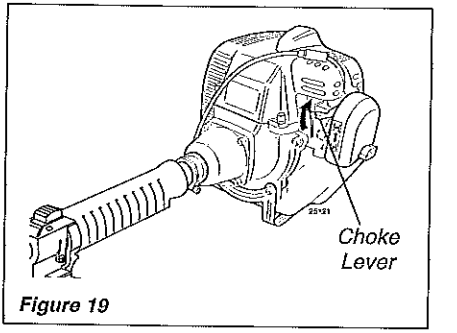


Figure 19

4. Set the choke lever to the CLOSED position if the engine is cold. See Figure 19.

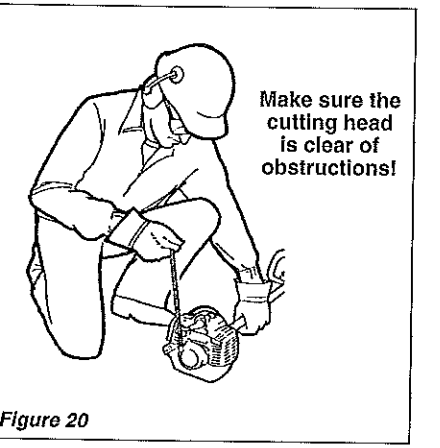


Figure 20

5. While holding the outer tube firmly with one hand, slowly pull the recoil starter handle until resistance is felt, then pull quickly to start the engine. See Figure 20.

CAUTION!

Do not pull the recoil starter to the end of the rope travel. Pulling the recoil starter to the end of the rope travel can damage the starter.

Starting the Engine (continued)

CAUTION!

Pulling the starter rope to the end of its travel can damage the recoil starter.

WARNING!

The cutting attachment will rotate when the engine is started!

IMPORTANT!

Repeated cranking of the engine with the choke CLOSED will lead to engine flooding. If the engine fails to start after several attempts, move the choke lever to the OPEN position and continue cranking.

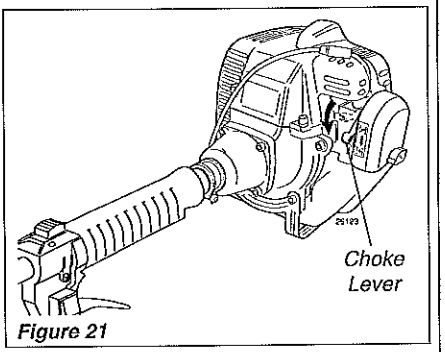


Figure 21

6. When the engine first fires, gradually return the choke to the OPEN position (if you have not already done so). See Figure 21.
7. When the engine starts and is running, return the engine to idle by tapping the throttle lever to release the throttle lock.

WARNING!

Never start the engine from the operating position.

Starting a Warm Engine.

Starting a warm engine involves all the same steps as starting a cold engine, EXCEPT:

- The choke lever should be in the OPEN position.

If the engine does not start, follow the cold starting procedure.

When the Engine Starts...

- After the engine starts, disengage the throttle lock and allow the engine to warm up at idle 2 or 3 minutes before operating the machine.
- After the engine is warm, pick up the machine and clip on the harness.
- Advancing the throttle makes the cutting attachment turn faster; releasing the throttle permits the attachment to stop turning. If the cutting attachment continues to rotate when the engine returns to idle, carburetor idle speed should be adjusted (see the next page).

If the Engine Fails to Start.

- Remove the spark plug.
- Clear excess fuel from the cylinder by cranking the engine several times with the spark plug removed.
- Replace and firmly tighten the spark plug.
- Follow the instructions for *Starting a Warm Engine.*

Adjusting the Blade Cutting Depth

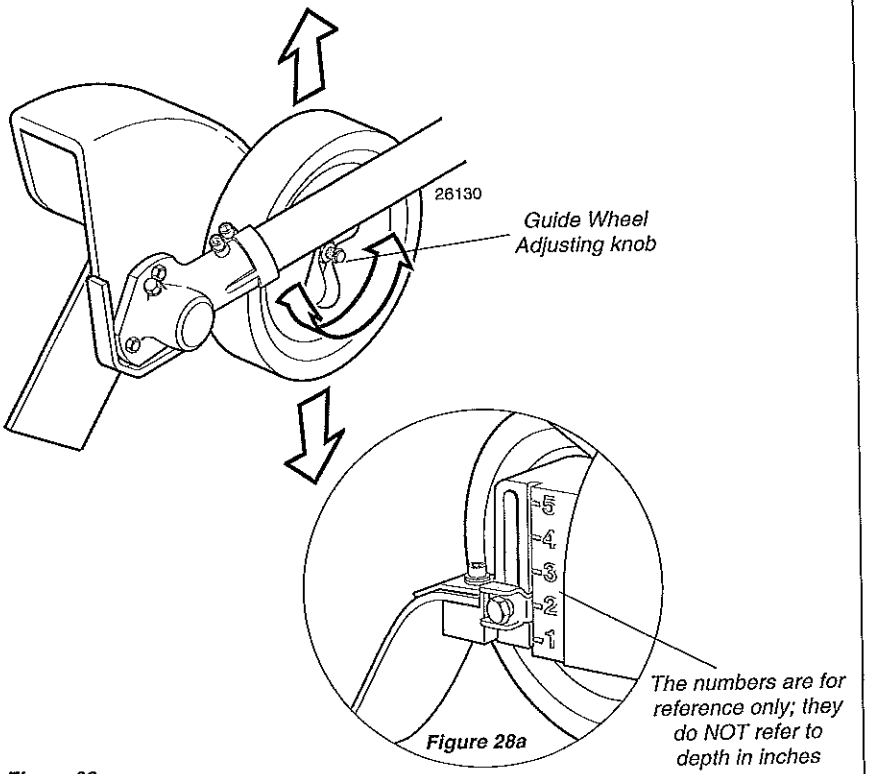


Figure 28

Figure 28a

The edger's depth of cut is controlled by a combination of operator height, blade wear, and the positioning of the edger's guide wheel.

To adjust blade height:

1. Loosen the guide wheel adjusting knob. See Figure 28.
2. Raise or lower the guide wheel to the desired setting. See Figure 28a.
3. Tighten the guide wheel adjusting knob firmly. See Figure 28.

WARNING!

Never adjust the guide wheel while the engine is running.

NOTE:

Guide wheel adjustment is also required to compensate for blade wear.

WARNING!

Use only Shindaiwa replacement blades.

Edging With an LE261 Hand-held Edger

WARNING!
■ Wear eye protection, long pants, and boots when operating this unit!
■ Whenever you strike a hard object with the blade, always stop the edger and carefully inspect the blade for damage. NEVER OPERATE THE EDGER WITH A DAMAGED BLADE!

Figure 27

OPERATION

Guidelines for Operating the Edger

- Before edging, make sure the area is soft enough so the blade does not bog down. If necessary, water the area before edging.
- Remove debris and other obstacles that could be thrown by the rotating blade.
- Plan your work so the edger blade is always on your right-hand side.

Begin each pass by positioning the unit over the work, and with the engine running at about half-throttle. Slowly lower the blade to the ground while applying full throttle. See Figure 27.

CAUTION!

Low-speed edging can lead to premature clutch failure.

- Do not move the edger into the work so fast that the engine or blade bogs down.
- Do not pull the unit backward over the ground with the engine running. Doing so will tend to bury the blade.

Regular and frequent use of the edger will make a neater lawn, and a frequently trimmed edge will be easier to maintain.

Cutting Grass

Your Shindaiwa T261 Grass Trimmer may be equipped with one of several Shindaiwa trimmer head models, each with features for specific applications and/or operational requirements.

NOTE:

For proper operation, always refer to the instructions accompanying the trimmer head being used. Available trimmer head styles include:

- **Semi-automatic.** Trimmer line is indexed when the operator taps the trimmer head on the ground during operation.
- **Manual.** The operator indexes line manually with the grass trimmer stopped.
- **Fixed.** The operator must stop the machine and add new lengths of trimmer line manually.
- **Flail.** This device, designed for clearing weeds and light brush, features three nylon blades attached to the head by pivots.

NOTE:

Additional hardware may be required to mount the Fixed line or the Flail type of trimmer heads.

CAUTION!

Do not push the rotating line into trees, wire fences or any material that could tangle or break line ends.

Engine Operating Speeds

Operate the unit at full throttle while cutting grass.

CAUTION!

Operation of a trimmer without a cutting attachment shield and using excessive line length can lead to premature clutch failure.

Trimming and Mowing Grass

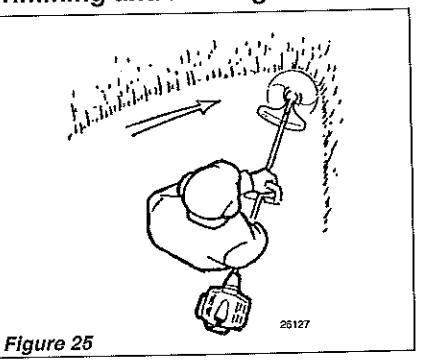


Figure 25

Hold the grass trimmer so the trimmer head is angled slightly into the area to be cut. To ensure maximum trimmer-line service life, cut only with the tip of the trimmer line. Cut grass by swinging the unit's trimmer head from left to right. Keep the trimmer head horizontal. See Figure 25.

Edging

Tilt the handle about 100° to the left (from horizontal) and move forward, holding the trimmer vertically as shown. See Figure 26.

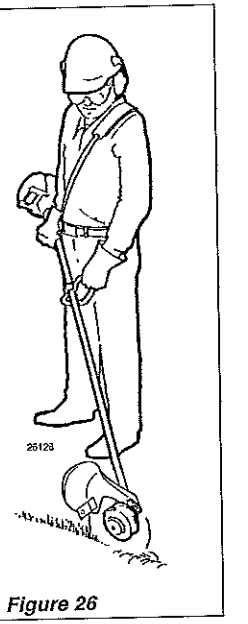


Figure 26

Stopping the Engine

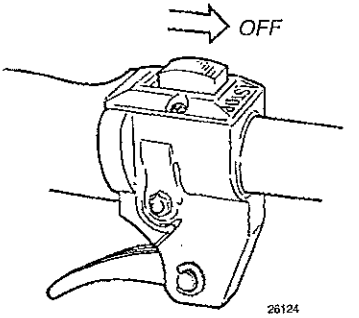


Figure 22

Idle the engine briefly, then slide the ignition switch to the "O" (engine OFF) position. See Figure 22.

Adjusting Engine Idle

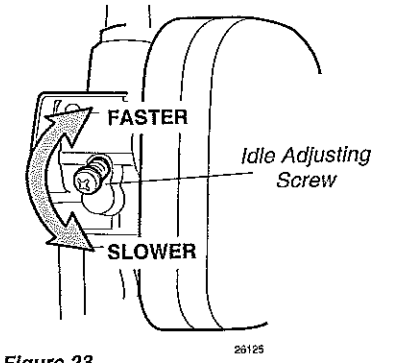


Figure 23

The engine must return to idle speed whenever the throttle lever is released. Idle speed is adjustable, and must be set low enough to permit the engine clutch to disengage the cutting attachment.

Idle Speed Adjustment

WARNING!

The cutting attachment must never rotate at engine idle! If the idle speed cannot be adjusted by the proceedure described here, return the trimmer to your Shindaiwa dealer for inspection.

1. Place the trimmer on the ground, then start the engineand allow it to idle 2-3 minutes until warm.
2. If the attachment rotates when the engine is at idle, reduce the idle speed by turning the idle adjustment screw counter-clockwise.
3. If a tachometer is available, the engine speed should be adjusted to 3,000 (± 250) rpm (min^{-1}).
4. Carburetor fuel mixture adjustments are preset at the factory and cannot be serviced in the field.

Checking Unit Condition

NEVER operate the unit with the cutting attachment shield or other protective devices (ignition switch, etc.) removed!

WARNING!

A cutting attachment shield or other protective device is no guarantee of protection against thrown objects and ricochet. YOU MUST ALWAYS GUARD AGAINST FLYING DEBRIS!

Use only authorized Shindaiwa parts and accessories with your Shindaiwa trimmer. Do not make modifications to your machine without the written approval of Shindaiwa, Inc.

ALWAYS make sure the cutting attachment is properly installed and firmly tightened before operation.

NEVER use a cracked or warped cutting attachment: replace it with a serviceable one.

ALWAYS make sure the cutting attachment fits properly into the appropriate attachment holder. If a properly installed attachment vibrates, replace the attachment with new one and re-check.

ALWAYS stop the engine immediately and check for damage if you strike a foreign object or if the unit becomes entangled. Do not operate with broken or damaged equipment.

NEVER allow the engine to run at high rpm without a load. Doing so could damage the engine.

NEVER operate the unit with worn or damaged fasteners or cutting attachment holders.

OPERATION

Shoulder Strap (T261)

Adjust the shoulder strap so the shoulder pad rests comfortably on the off-side shoulder and the cutting path of the cutting attachment is parallel to the ground. Make sure all hooks and adjusting devices are secure. See Figure 24.

NOTE:

Although not required for use with 261-series grass trimmers or lawn edgers, a shoulder strap can increase operator comfort and reduce fatigue during extended periods of operation.

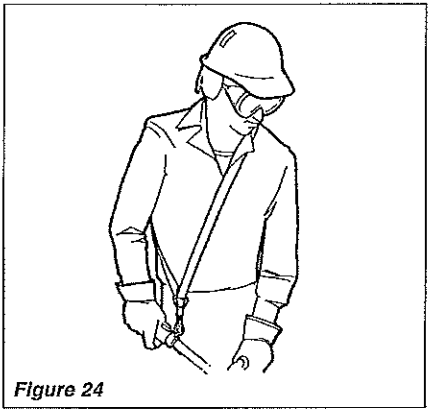


Figure 24

Optional Accesory Items

Shoulder Strap .....P/N 22410-17202
Hanger .....P/N 22410-12210
Hanger Bolt.....P/N 01020-05120
Hanger Nut .....P/N 01500-05041

General Maintenance

IMPORTANT!

MAINTENANCE, REPLACEMENT OR REPAIR OF EMISSION CONTROL DEVICES AND SYSTEMS MAY BE PERFORMED BY ANY REPAIR ESTABLISHMENT OR INDIVIDUAL; HOWEVER, WARRANTY REPAIRS MUST BE PERFORMED BY A DEALER OR SERVICE CENTER AUTHORIZED BY SHINDAIWA KOGYO CO., LTD. THE USE OF PARTS THAT ARE NOT EQUIVALENT IN PERFORMANCE AND DURABILITY TO AUTHORIZED PARTS MAY IMPAIR THE EFFECTIVENESS OF THE EMISSION CONTROL SYSTEM AND MAY HAVE A BEARING ON THE OUTCOME OF A WARRANTY CLAIM.

WARNING!

Before performing any maintenance, repair or cleaning work on the UNIT, make sure the engine and cutting attachment are completely stopped. Disconnect the spark plug wire before performing service or maintnenance work.

WARNING!

Non-standard parts may not operate properly with your unit and may cause damage and lead to personal injury.

NOTE:

Using non-standard replacement parts could invalidate your Shindaiwa warranty.

Maintenance

Edger Blades (LE261)

Check blade condition frequently. If a blade's performance changes suddenly, stop the engine and check the blade for cracks or other damage. Replace a damaged blade IMMEDIATELY!

WARNING!

- Never repair a damaged blade by welding, staightening, or by modifying its shape. An altered blade may break during operation, resulting in serious personal injury.
- Blades are not interchangeable between Shindaiwa LE series edgers and trimmer/brushcutter models. Operating any unit with a blade or attachment not approved for that unit can be hazardous and may cause serious injury.

Muffler

This unit must never be operated with a faulty or missing spark arrester or muffler. Make sure the muffler is well secured and in good condition. A worn or damaged muffler is a fire hazard and may also cause hearing loss.

Spark Plug

Keep the spark plug and wire connections tight and clean.

Fasteners

Make sure nuts, bolts, and screws (except carburetor adjusting screws) are tight.

Daily Maintenance

Prior to each work day, perform the following:

- Remove all dirt and debris from the engine, check the cooling fins and air cleaner for clogging, and clean as necessary.
- Carefully remove any accumulations of dirt or debris from the muffler and fuel tank. Dirt build-up in these areas can lead to engine overheating, premature wear, or create a fire hazard.
- Check for loose or missing screws or components. Make sure the cutting attachment is securely fastened.
- Check the entire unit for leaking fuel or grease.

10-Hour Maintenance

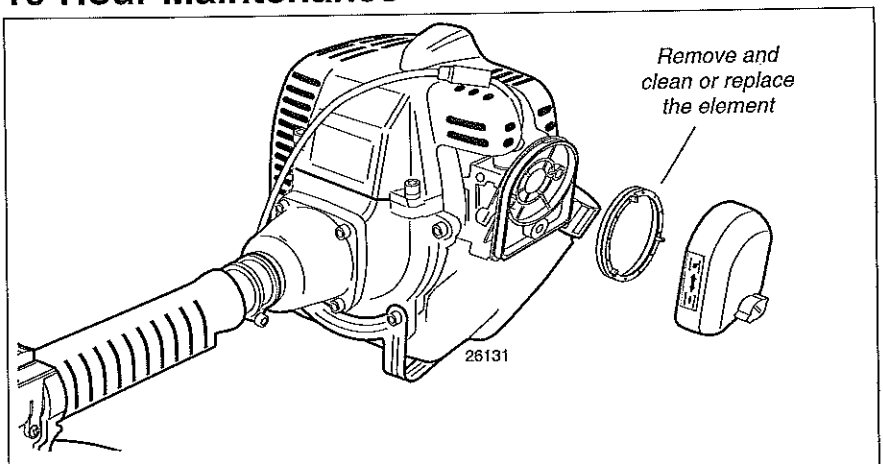


Figure 29

Every 10 hours of operation (more frequently in dusty or dirty conditions):

Remove the air cleaner element. See Figure 29. Clean or replace as necessary. To clean element: Wash it thoroughly in soap and water. Let dry before reinstalling the element.

CAUTION!

Do not operate the unit if the air cleaner or element is damaged, or if the element is wet.

10/15-Hour Maintenance

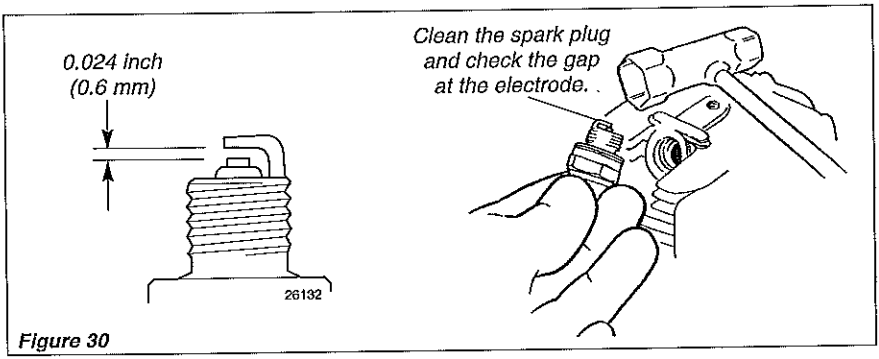


Figure 30

Every 10 to 15 hours of operation: Remove and clean the spark plug. Adjust the spark plug electrode gap to 0.024 inch (0.6 mm). If the plug must be replaced, use only a Champion CJ8Y or equivalent type of spark plug of the correct heat range. See Figure 30.

CAUTION!

Before removing the spark plug, clean the area around the plug to prevent dirt and debris from getting into the engine's internal parts.

MAINTENANCE

50-hour Maintenance

Every 50 hours of operation (more frequently in severe conditions):

- Remove and clean the cylinder cover and clean grass and dirt from the cylinder fins.
- Remove the cutting attachment, cutting attachment holder and the gear shaft collar. Remove the filler plug from the side of the gearcase and press new grease into the gear case until the old grease has been pushed out. Use only lithium-base grease such as Shindaiwa Gear Case Lubricant or equivalent. See Figure 31.
- Use a hooked wire to extract the fuel filter from inside the fuel tank. See Figure 32.

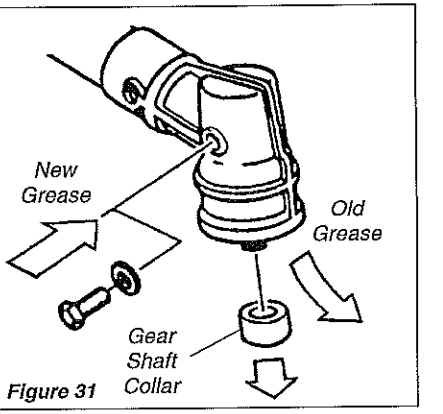


Figure 31

CAUTION!

Make sure you do not pierce the fuel line with the end of the hooked wire. The line is delicate and can be damaged easily.

Remove and replace the filter element. Before reinstalling the filter element, inspect the condition of all the fuel system components (fuel pick-up line, fuel return line, tank vent, fuel cap and fuel tank). If damage, splitting or deterioration are noted, the unit should be removed from service until it can be inspected or repaired by a Shindaiwa-trained service technician. See Figure 32.

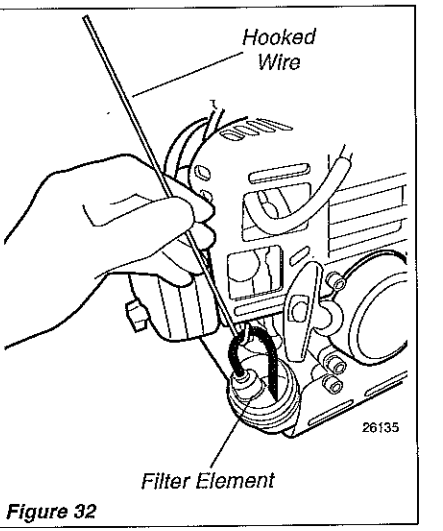


Figure 32

LE261 ONLY
Lubricate the Flexible Shaft

Lack of lubrication will cause rapid wear to the flexible shaft and also to the shaft tube liner, resulting in increased vibration and greatly decreased service life. Remove and lubricate the flexible shaft as follows: **Refer to Figure 33:**

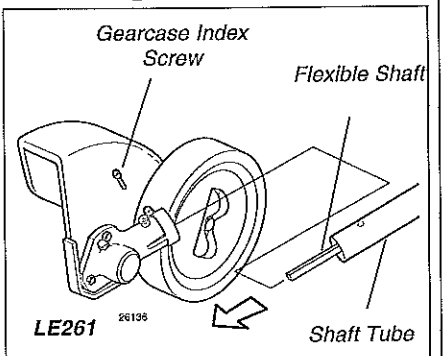


Figure 33

1. Loosen the gearcase clamp screw.
2. Remove the gearcase index screw.
3. Slide the gearcase and shield assembly from the shaft tube.
4. Pull the flexible shaft from the shaft tube assembly, and clean the shaft thoroughly in solvent.
5. Inspect the shaft carefully, and discard if worn or damaged.
6. Coat the entire length of the shaft with Shindaiwa Premium Gearcase Lube (or equivalent), and reinstall the shaft in the shaft tube assembly.

NOTE:

For extended shaft life, the flexible cable should be reversed end-for-end during the reinstallation process.

7. Insert the flexible shaft into the female end of the gearcase pinion. See Figure 33.
8. Install the gearcase on the shaft tube in the reverse order of removal.

CAUTION!
The D-shaped shim washer must be positioned with its flat edge toward the shaft tube.

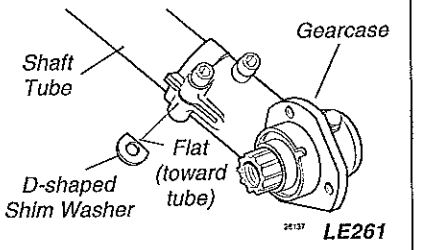


Figure 34

LE261Inspect the Gearcase Protector

The metal gearcase protector (p/n 72958-16210) is installed to protect the gearcase flange from damage when working close to sidewalks or other abrasive surfaces, and should be routinely inspected for damage or excessive wear. See Figure 35.

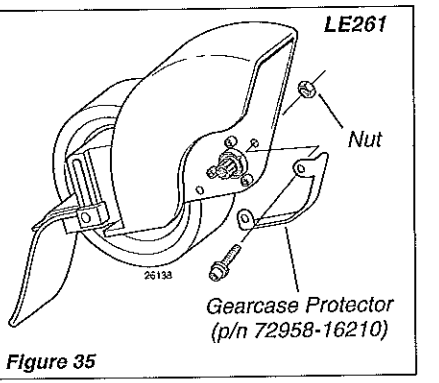


Figure 35

When replacing the protector, inspect to be sure that both of the protector mounting screws are firmly tightened and each screw is locked in place with a nut as shown in Figure 35.

135-hour Maintnenace

Every 135 hours of operation

Remove and clean the muffler.

WARNING!

Never operate the unit with a damaged or missing muffler or spark arrester! Operating with missing or damaged exhaust components is a fire hazard and could also damage your hearing.

1. Remove the muffler cover from the engine.
2. Remove the two 5 mm muffler screws. Remove the lower muffler screw, then lift the muffler assembly from the engine. See Figure 36.
3. Remove the rear muffler shield bolt. While noting the orientation of parts, separate the muffler shields. See Figure 36.
4. Remove the spark arrester screen and clean with a stiff bristle brush.
5. Gently tap the muffler on a wood surface to dislodge any loose carbon.
6. Inspect the cylinder exhaust port for carbon buildup.

IMPORTANT!

If you note excessive carbon buildup, consult with an authorized servicing dealer.

7. Reassemble the muffler in the reverse order of disassembly.

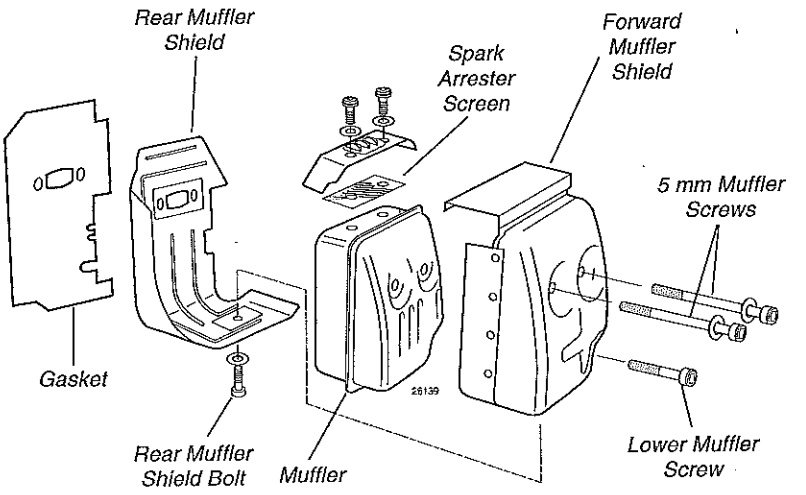


Figure 36 **Catalyst Muffler**

Long Term Storage

Whenever the unit will not be used for 30 days or longer, use the following procedures to prepare it for storage:

- Clean external parts thoroughly.
- Drain all the fuel from the fuel tank.

IMPORTANT!

All stored fuels should be stabilized with a fuel stabilizer such as STA-BIL™ if Shindaiwa One oil with fuel stabilizer is not used.

- To remove the remaining fuel from the fuel lines and carburetor with the fuel drained from the tank;

1. Prime the primer bulb until no more fuel is passing through the return tube.
2. Start and run the engine until it stops running.
3. Repeat steps 1 and 2 until the engine will no longer start.

CAUTION!

Gasoline stored in the carburetor for extended periods can cause hard starting, and could also lead to increased service and maintenance costs.

- Remove the spark plug and pour about 1/4 ounce of 2-cycle mixing oil into the cylinder through the spark plug hole. Slowly pull the recoil starter 2 or 3 times so oil will evenly coat the interior of the engine. Reinstall the spark plug.
- Before storing the machine, repair or replace any worn or damaged parts.
- Remove the air cleaner element from the carburetor and clean it thoroughly with soap and water. Let dry and reassemble the element.
- Store the machine in a clean, dust-free area.

Troubleshooting Guide

ENGINE DOES NOT START

What To Check		Possible Cause	Remedy
Does the engine crank?	NO →	Faulty recoil starter. Fluid in the crankcase. Internal damage.	Consult with an authorized servicing dealer.
YES ↓			
Good compression?	NO →	Loose spark plug. Excess wear on cylinder, piston, rings.	Tighten and retest. Consult with an authorized servicing dealer.
YES ↓			
Does the tank contain fresh fuel of the proper grade?	NO →	Fuel incorrect, stale, or contaminated; mixture incorrect.	Refill with clean fresh unleaded gasoline with a pump octane of 87 or higher, mixed with a 2-cycle air cooled mixing oil that meets or exceeds ISO-L-EGD and/or JASO FC classified oils at a 50:1 gasoline/oil ratio.
YES ↓			
Is fuel visible and moving in the return line when priming?	NO →	Check for clogged fuel filter and/or vent.	Clean as required; restart.
YES ↓			
Is there spark at the spark plug wire terminal?	NO →	The ignition switch is in "O" (OFF) position. Faulty ignition ground. Faulty ignition unit.	Move switch to "I" (ON) position and re-start. Consult with an authorized servicing dealer.
YES ↓			
Check the spark plug.	→	If the plug is wet, excess fuel may be in the cylinder.	Crank the engine with the plug removed, replace the plug, and re-start.
		The plug is fouled or improperly gapped.	Clean and re-gap the plug to 0.024 inch (0.6 mm). Re-start.
		The plug is damaged internally or of the wrong size.	Replace the plug with a Champion CJ8Y or equivalent type spark plug of the correct heat range. Re-start.

Troubleshooting Guide (continued)

LOW POWER OUTPUT

What To Check	Possible Cause	Remedy
Is the engine overheating?	Operator is overworking the machine.	Shorten trimmer line. Cut at a slower rate.
	Carburetor mixture is too lean.	Consult with an authorized servicing dealer.
	Improper fuel ratio.	Refill with clean fresh unleaded gasoline with a pump octane of 87 or higher, mixed with a 2-cycle air cooled mixing oil that meets or exceeds ISO-L-EGD and/or JASO FC classified oils at a 50:1 gasoline/oil ratio.
	Fan, fan cover, cylinder fins dirty or damaged.	Consult with an authorized servicing dealer.
	Carbon deposits on the piston or in the muffler.	Consult with an authorized servicing dealer.
Engine is rough at all speeds. May also have black smoke and/or unburned fuel at the exhaust.	Clogged air filter.	Service the filter.
	Loose or damaged spark plug.	Tighten or replace.
	Air leakage or clogged fuel line.	Repair or replace filter and/or fuel line.
	Water in the fuel.	Refill with fresh fuel/oil mixture. See Page 18.
	Piston seizure.	Consult with an authorized servicing dealer.
	Faulty carburetor and/or diaphragm.	Consult with an authorized servicing dealer.
Engine is knocking.	Overheating condition.	See above.
	Improper fuel.	Check fuel octane rating; check for presence of alcohol in the fuel. Refuel as necessary. See page 18.
	Carbon deposits in the combustion chamber.	Consult with an authorized servicing dealer.

Troubleshooting Guide (continued)

ADDITIONAL PROBLEMS

Symptom	Possible Cause	Remedy
Poor acceleration.	Clogged air filter.	Clean the air filter.
	Clogged fuel filter.	Replace the fuel filter.
	Lean fuel/air mixture.	Consult with an authorized servicing dealer.
	Idle speed set too low.	Adjust: 3,000 (±250) rpm (min^{-1})
Engine stops abruptly.	Switch turned off.	Reset the switch and re-start.
	Fuel tank empty.	Refuel. See page 18.
	Clogged fuel strainer.	Replace strainer.
	Water in the fuel.	Drain; replace with clean fuel. See page 18.
	Shorted spark plug or loose terminal.	Clean or replace spark plug with a Champion CJ8Y or equivalent type spark plug of the correct heat range. Tighten the terminal.
	Ignition failure.	Replace the ignition unit.
	Piston seizure.	Consult with an authorized servicing dealer.
Engine difficult to shut off.	Ground (stop) wire is disconnected, or switch is defective.	Test and replace as required.
	Overheating due to incorrect spark plug.	Replace spark plug with a Champion CJ8Y or equivalent spark plug of the correct heat range.
	Overheated engine.	Idle engine until cool.
Cutting attachment rotates at engine idle.	Engine idle too high.	Set idle: 3,000 (±250) rpm (min^{-1})
	Broken clutch spring or worn clutch spring boss.	Replace spring/shoes as required, check idle speed.
	Loose attachment holder.	Inspect and re-tighten holders securely.

Troubleshooting Guide (continued)

ADDITIONAL PROBLEMS

Symptom	Possible Cause	Remedy
Excessive vibration.	Warped or damaged attachment.	Inspect and replace attachment as required.
	Loose gearcase.	Tighten gearcase securely.
	Bent main shaft/worn or damaged bushings.	Inspect and replace as necessary.
Cutter will not rotate.	Shaft not installed in powerhead or gearcase.	Inspect and reinstall as required.
	Broken shaft.	Consult with an authorized servicing dealer.
	Damaged gearcase.	Consult with an authorized servicing dealer.

Emission System Warranty Statement

Your Warranty Rights and Obligations

The California Air Resources Board, the U.S. Environmental Protection Agency and Shindaiwa Kogyo Co., Ltd. are pleased to explain the emission control system warranty on your new small off-road (non-road) engine.

In California, new small off-road engines must be designed, built, and equipped to meet the State's stringent anti-smog standards. In other states, new 1997 and later non-road engines must meet the Federal EPA's stringent anti-smog standards. Shindaiwa Kogyo Co., Ltd. must warrant the emission control system on your small off-road engine for the periods of time listed below, provided there has been no abuse, neglect, or improper maintenance of your small off-road engine.

Your engine emission control system includes parts such as the carburetor, the ignition system and, if equipped, the catalytic converter. These components are specifically listed below.

Where a warrantable condition exists, Shindaiwa Kogyo Co., Ltd. will repair your small off-road engine at no cost to you including diagnosis, parts, and labor.

Manufacturer's Warranty Coverage

When sold within the U.S., this engine's emission control system is warranted for a period of two (2) years from the date this product is first delivered to the original retail purchaser.

During the warranty period, Shindaiwa Kogyo Co., Ltd. will, at their option, repair or replace any defective emission-related component on this engine. During the original Warranty Period, these Warranty Rights are automatically transferable to subsequent owners of this product.

What is Covered by this Warranty

1. Carburetor Internal Components
   - Throttle Valve, Needle, Jet, Metering Diaphragm
2. Ignition System Components
   - Ignition Coil
   - Flywheel Rotor
3. Catalytic Converter (if originally equipped)

The emission control system for your particular Shindaiwa engine may also include certain related hoses and connectors.

Owners Warranty Responsibilities

As the small off-road engine owner, you are responsible for the performance of the required maintenance listed in this owners manual. Shindaiwa Kogyo Co., Ltd. recommends that you retain all receipts covering maintenance on your small off-road engine, but Shindaiwa Kogyo Co., Ltd. cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the small off-road engine owner, you should be aware, however, that Shindaiwa Kogyo Co., Ltd. may deny you warranty coverage if your small off-road engine or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.

You are responsible for presenting your small off-road engine to an authorized Shindaiwa Dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your Warranty Rights and responsibilities, you should contact a Shindaiwa customer service representative at (503) 692-3070 or your local Shindaiwa Dealer.

Consequential Damages

In the event that other component parts of this product are damaged by the failure of a warranted part, Shindaiwa Kogyo Co., Ltd. will repair or replace such component parts at no charge to you.

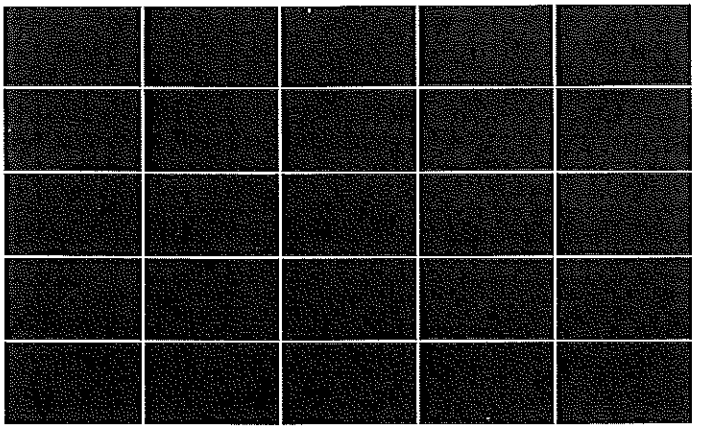
What is Not Covered

- Failures caused by abuse, neglect, or improper maintenance procedures.
- Failures caused by the use of modified or non-approved parts or attachments.

This Warranty is Administered by:

Shindaiwa Inc.
11975 S.W. Herman Rd.
Tualatin, OR 97062
(503) 692-3070

NOTES



shindaiwa

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